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L13: Entry 1 of 1

File: JPAB

Jun 25, 1980

PUB-NO: JP355084276A

DOCUMENT-IDENTIFIER: JP 55084276 A

TITLE: NARROW GROOVE AUTOMATIC WELDING METHOD OF PIPELINE GIRTH JOINTS

PUBN-DATE: June 25, 1980

## INVENTOR-INFORMATION:

NAME

COUNTRY

SAKURAI, HIDEO

## ASSIGNEE-INFORMATION:

NAME

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NIPPON STEEL CORP

APPL-NO: JP53158265

APPL-DATE: December 21, 1978

US-CL-CURRENT: 219/60R; 219/125.12

INT-CL (IPC): B23K 9/12

## ABSTRACT:

PURPOSE: To control welding heat input, reduce the hardness of girth weld zones and prevent the induction of cracking, etc. by letting a non-consumable electrode follow the consumable electrode for gas metal arc welding given with weaving in the high speed down welding of the captioned joints.

CONSTITUTION: High-speed down welding is done with a gas metal arc while a consumable electrode 1 as a preceding electrode of the girth joint welding of a pipe 3 is being weaved in order to improve the penetration and bead shape. Welding heat input is added by as much as the heat quantity of the arc by one or more non-consumable electrode 2 as the succeeding arc heat source. The weld beads 5 by the electrode 1 tend to become convex beads. These are made to flat beads 6 by weaving, and the occurrence of the lack of fusion 7 in the groove corners is prevented by the second path. The electrode 2 further slightly melts the upper part of the beads 5 to smooth the surface and the accumulation of layers free from defects is accomplished by the second path and at the same time the cooling rate of the weld zone is decreased.

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L12: Entry 1 of 1

File: DWPI

Jun 25, 1980

DERWENT-ACC-NO: 1980-56004C

DERWENT-WEEK: 198032

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TITLE: High speed welding of pipeline girth joint - using weaving consumable arc welding electrode and non-consumable electrodes

PATENT-ASSIGNEE:

ASSIGNEE

NIPPON STEEL CORP

CODE

YAWA

PRIORITY-DATA: 1978JP-0158265 (December 21, 1978)

PATENT-FAMILY:

PUB-NO

PUB-DATE

LANGUAGE

PAGES

MAIN-IPC

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INT-CL (IPC): B23K 9/12

ABSTRACTED-PUB-NO: JP 55084276A

BASIC-ABSTRACT:

In the high speed downward advancing welding of a pipeline girth joint, a weaving consumable electrode for gas metal arc welding is used as the advance electrode, and  $\geq 1$  non-consumable electrode is/are used as following electrode(s).

The bead made by consumable electrode is heated by the non-consumable electrode, so the shape of the bead is made flat and the cooling speed of the welded part is made low, giving a strong welded joint.

TITLE-TERMS: HIGH SPEED WELD PIPE GIRTH JOINT WEAVE CONSUME ARC WELD ELECTRODE NON CONSUME ELECTRODE

DERWENT-CLASS: M23 P55

CPI-CODES: M23-D01A;